

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

**MORPHOMETRIC:**

|                            |                                    |         |
|----------------------------|------------------------------------|---------|
| Lake: EAST POND            | Lake Area (ha):                    | 2.70    |
| Town: LIVERMORE            | Maximum depth (m):                 | 7.9     |
| County: Grafton            | Mean depth (m):                    | 3.4     |
| River Basin: Merrimack     | Volume (m <sup>3</sup> ):          | 91000   |
| Latitude: 44°00'27" N      | Relative depth:                    | 4.3     |
| Longitude: 71°33'59" W     | Shore configuration:               | 1.37    |
| Elevation (ft): 2540       | Areal water load (m/yr):           | 33.71   |
| Shore length (m): 800      | Flushing rate (yr <sup>-1</sup> ): | 10.00   |
| Watershed area (ha): 119.1 | P retention coeff.:                | 0.42    |
| % watershed ponded: 0.0    | Lake type:                         | natural |

**BIOLOGICAL:**

23 February 1995

25 August 1994

|                                    |    |                    |                       |
|------------------------------------|----|--------------------|-----------------------|
| DOM. PHYTOPLANKTON (% TOTAL)       | #1 | DINOBRYON 99%      | DINOBRYON 99%         |
|                                    | #2 |                    |                       |
|                                    | #3 |                    |                       |
| PHYTOPLANKTON ABUNDANCE (units/mL) |    |                    |                       |
| CHLOROPHYLL-A (µg/L)               |    |                    | 1.64                  |
| DOM. ZOOPLANKTON (% TOTAL)         | #1 | ACTINOPOD SPP. 64% | CALANOID COPEPOD 35%  |
|                                    | #2 | CILIATE SPP. 29%   | BOSMINA 24%           |
|                                    | #3 |                    | DAPHNIA 24%           |
| ROTIFERS/LITER                     |    | 2                  | 8                     |
| MICROCRUSTACEA/LITER               |    | 2                  | 46                    |
| ZOOPLANKTON ABUNDANCE (#/L)        |    | 83                 | 54                    |
| VASCULAR PLANT ABUNDANCE           |    |                    | Scattered             |
| SECCHI DISK TRANSPARENCY (m)       |    |                    | 7.9 Visible on bottom |
| BOTTOM DISSOLVED OXYGEN (mg/L)     |    | 7.6                | 9.4                   |
| BACTERIA (E. coli, #/100 ml)       | #1 |                    | 1                     |
|                                    | #2 |                    |                       |
|                                    | #3 |                    |                       |

**SUMMER THERMAL STRATIFICATION:**

not stratified

Depth of thermocline (m): None  
Hypolimnion volume (m<sup>3</sup>): None  
Anoxic volume (m<sup>3</sup>): None

**CHEMICAL:**

Lake: EAST POND

Town: LIVERMORE

|                               | 23 February 1995 |       | 25 August 1994 |  |       |
|-------------------------------|------------------|-------|----------------|--|-------|
| DEPTH (m)                     | 2.0              | 4.0   | 2.5            |  | 5.0   |
| pH (units)                    | 5.6              | 5.3   | 6.2            |  | 6.2   |
| A.N.C. (Alkalinity)           | 2.5              | 2.2   | 2.6            |  | 2.9   |
| NITRATE NITROGEN              | 0.27             | 0.27  | 0.13           |  | 0.10  |
| TOTAL KJELDAHL NITROGEN       | < 0.10           | 0.10  | < 0.10         |  | 0.10  |
| TOTAL PHOSPHORUS              | 0.005            | 0.005 | 0.017          |  | 0.005 |
| CONDUCTIVITY ( $\mu$ mhos/cm) | 21.6             | 21.2  | 19.5           |  | 19.5  |
| APPARENT COLOR (cpu)          | 7                | 7     | 16             |  | 16    |
| MAGNESIUM                     |                  |       | 0.14           |  |       |
| CALCIUM                       |                  |       | 1.4            |  |       |
| SODIUM                        |                  |       | 1.0            |  |       |
| POTASSIUM                     |                  |       | 0.60           |  |       |
| CHLORIDE                      | < 2              | < 2   | < 2            |  | < 2   |
| SULFATE                       | 4                | 4     | 4              |  | 4     |
| TN : TP                       |                  | 74    |                |  | 40    |
| CALCITE SATURATION INDEX      |                  |       | 4.5            |  |       |

All results in mg/L unless indicated otherwise

**TROPHIC CLASSIFICATION: 1994**

D.O. S.D. PLANT CHL TOTAL CLASS

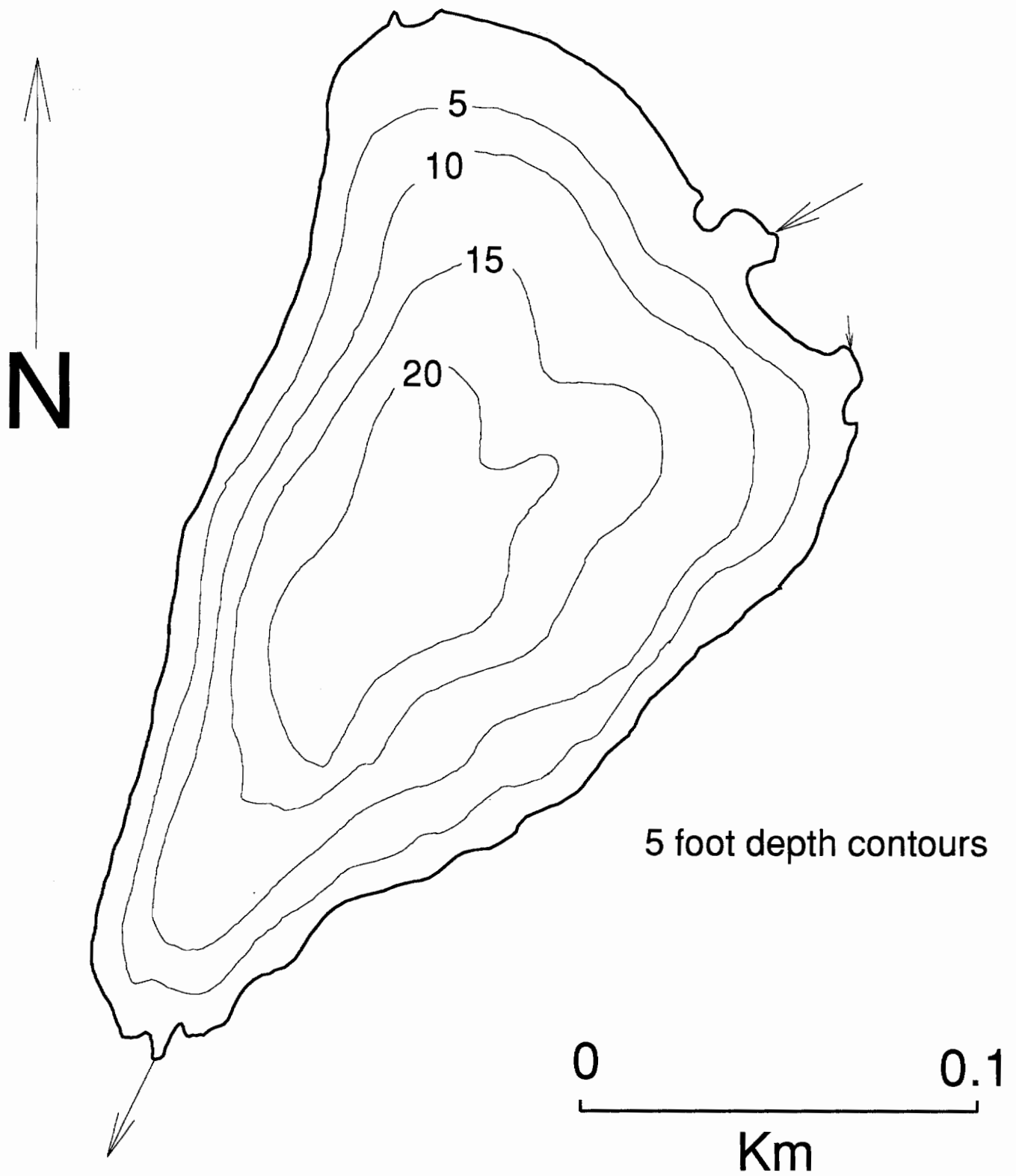
|    |   |   |   |   |        |
|----|---|---|---|---|--------|
| ** | 0 | 1 | 0 | 1 | Oligo. |
|----|---|---|---|---|--------|

**COMMENTS:**

1. This is a high elevation remote trout pond in the White Mountain National Forest that was sampled jointly with the NH Fish and Game Department. It has been sampled by helicopter since 1992 for acid rain related parameters.
2. This is a slightly acid, clear water oligotrophic pond with exceptional water clarity.
3. This remote pond was dredged for diatomaceous earth between 1910 and 1916.

# East Pond

## Livermore



adapted from Buso, et al., 1984

111-64

[illegible]

TOWN: LIVERMORE  
WEATHER: MOSTLY SUNNY; WARM

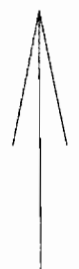
[illegible]

**COMMENTS:** Not thermally stratified despite being over 25 feet deep; clear water allows sunlight penetration to the bottom.

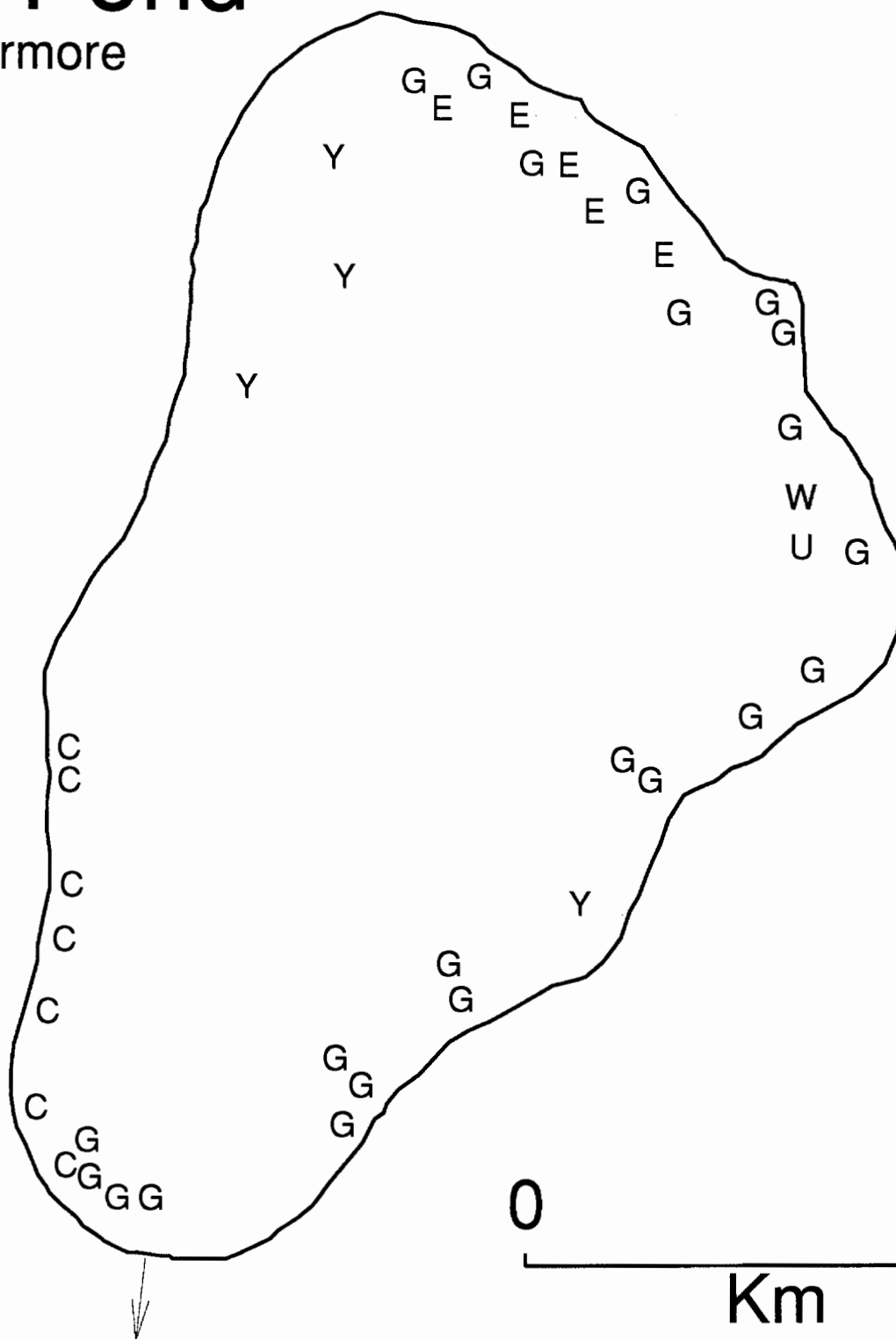
\*Dissolved oxygen values are in mg/L

# East Pond

Livermore



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[illegible]